

Notice of Allowability

Application No.

10/689,314

Examiner

Chih-Cheng Glen Kao

Applicant(s)

BERMAN ET AL.

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 35-48.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 3/8/04 and 3/8/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 200509
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

Continuation of Attachment(s) 9. Other: IDS: 6/25/04, 12/20/04, and 12/20/04.

EXAMINER'S AMENDMENT

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention.

Species I. Claims 1-34, drawn to methods and apparatuses including shifting an array of detector elements in a direction parallel to the array axis to analyze a calibrated reflectance signal to determine a characteristic of a second layer (fig. 3).

Species II. Claims 35-48, drawn to a method and apparatus including comparing a first ratio between a first direct signal and a second direct signal with a second ratio between a first reflectance signal and a second reflectance signal in order to find an elevation angle of a tangent of a surface (fig. 5b).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Benjamin Halpern on 9/29/05, an election was made without traverse to prosecute the invention of species II, claims 35-48.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

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1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Benjamin Halpern on 9/29/05.

4. The application has been amended as follows.

Cancel claims 1-34.

In claim 35, line 4; replace "the" with - a- -.

Information Disclosure Statement

5. Please note that some references cited in the information disclosure statements have a line drawn through because those references were already cited in another information disclosure statement that has been initialed and considered by the Examiner. Note that the two information disclosure statements filed 3/8/04 appear to be copies of each other. Also note that the "Other Art" cited in an information disclosure statement filed 12/20/04 have been considered by the Examiner as evidenced by the initialed and signed copy of an information disclosure statement filed 3/8/04.

Reasons for Allowance

6. Claims 35-48 are allowed. The following is an examiner's statement of reasons for allowance.

7. Regarding claim 35, prior art does not disclose or fairly suggest a method for inspection of a sample including sensing radiation that is directly incident on a radiation sensor from a radiation source so as to generate a first direct signal as a function of elevation angle, while a shutter is positioned so as to cut off the radiation at a predetermined cutoff angle, sensing radiation that is directly incident on the radiation sensor from the radiation source so as to generate a second direct signal as a function of the elevation angle, while the shutter is positioned so as not to cut off the radiation at the predetermined cutoff angle, and comparing a ratio between the first direct signal and the second direct signal with a second ratio between a first reflectance signal and a second reflectance signal in order to find an elevation angle of a tangent to a surface, in combination with all the limitations in the claim. Claims 36-41 are allowed by virtue of their dependency.

8. Regarding claim 42, prior art does not disclose or fairly suggest an apparatus for inspection of a sample including a radiation sensor in a second predetermined position, which is adapted to sense radiation so as to generate signals responsive to the radiation incident on the radiation sensor as a function of elevation angle, the signals comprising a first direct signal responsive to the radiation that is directly incident on the radiation sensor from a radiation source while a shutter is positioned so as to cut off the radiation at a predetermined cutoff angle and a second direct signal responsive to the radiation that is directly incident on the radiation sensor from the radiation source while the shutter is positioned so as not to cut off the radiation at the predetermined cutoff angle, and a signal processor, which is coupled to compare a first ratio between the first direct signal and the second direct signal with a second ratio between a first

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reflectance signal and a second reflectance signal in order to find the elevation angle of a tangent to a surface, in combination with all the limitations in the claim. Claims 43-48 are allowed by virtue of their dependency.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 6535575 (figs. 5a and 5b), 6639968 (figs. 5a and 5b), 6895071 (figs. 5a and 5b), and 6895075 (fig. 1) disclose inspection apparatuses.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER